

Project Design/Build Concepts

The philosophy and belief that design/build or design/build/finance is the best project delivery system available. The process allows a client to execute the project with the least distraction and use of minimal internal resources. Design/build offers the lowest cost and fastest schedule of completion. In Comparison of US Project Delivery Systems sponsored by the Construction Industry Institute, Konchar and Sanvido of Penn State University used data from 351 projects with the findings that design/build was superior to traditional design-bid-build in several significant areas, including unit costs typically being 6% to 30% lower, construction speed at least 12% faster, overall project delivery at least 33.5% sooner, cost growth averaging at least 5.2% less, schedule growth limited to at least 11.4% less time, and equal or better quality than from more conventional approaches.

Engineering News Record (ENR) pointed out in their June 6, 1994 issue "...Design/build...is being used more than ever before because owners apparently want certainty and they want it sooner in the construction process. They want single point of contact and responsibility. They want guarantees for price and schedule." As an Associate of the Design/build Institute of America, Dick Ryan, P.E., D.E.E. of AquaTec, Inc. has practiced Design/build for nearly 30 years. Design/build is truly one stop shopping with SINGLE SOURCE RESPONSIBILITY, and it is rapidly becoming the capital project delivery system of choice by many owners. Among the numerous advantages of the Design/build process are 20 to 30% cost savings with negotiated selection, schedules that are 20 to 30% shorter, minimum budget variation due to better cost control, accurate early knowledge of total cost, value engineering and constructability review during front-end-loading, best fit with total quality management programs, minimal construction market fluctuation risk, single contract administration, single source for responsibility, optimum outsourcing of more cost effective contractor/vendor equipment, simple cash flow, no engineer/contractor/vendor conflicts, scope control that assures the "wants" do not exceed the "needs", more congruent with partnering for better relationships, significantly reduced litigation and/or claims.

The typical approach to a Design/build (and finance if necessary) project concept occurs in two phases, with the first phase being the Preliminary Engineering phase, and the second phase being the Proposal-Final Engineering and Construction phase. In the Preliminary Engineering phase, work is performed on an hourly basis and/or a not-to-exceed cost basis. The client is charged only for the amount of time spent for professional services required to develop the schematic design documents including design criteria, sketches and diagrams. These include setting forth the requirements of the project and reviewing financial statements, revenue streams and operating costs to establish the financial requirements of the project. The use, price, time schedule, site requirements, performance, and expansion requirements are reviewed with the client. Conceptual documents, design criteria, performance requirements and other materials necessary for the project are included. From that, a conceptual design and a guaranteed maximum price is developed along with a financing and construction schedule delivered in a formal written Proposal, including a lump sum price for the design and construction of the project, a schedule and date of Substantial Completion, all information necessary for the parties to enter into the Phase II Proposal/Contract Agreement, and the time limits and Terms and Conditions for acceptance of the Proposal.

A very significant advantage of the Design/build process is that at the end of the Phase I Preliminary Engineering, the client has no further obligation to proceed with the vendor on the project, and would only pay for the time and expenses spent developing the Phase I Preliminary Engineering Proposal document, very similar to the initial engineering costs associated with a design-bid-build process. A client would be covered by liability insurance, including Professional Liability with a Design/build option and General Liability, which includes pollution coverage for client assurance. This provides assurance that the system proposed will work as guaranteed by the vendor. The Design/build approach allows the client to rapidly discover the best and least costly solution and a fast-track method to complete the project with the desired equipment and design criteria. It can also provide a process performance guarantee, something not normally available from the traditional manufacturer, engineer, or contractor. These benefits and more will accrue to the client as well as assistance in helping secure funding for the project, if necessary.